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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/810,035

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Albert S. Weiner

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EXAMINER

NGUYEN, THINH T

ART UNIT

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2818

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/810,035	Applicant(s) WEINER, ALBERT S.	
	Examiner THINH T. NGUYEN	Art Unit 2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-30 is/are pending in the application.
- 4a) Of the above claim(s) 11-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/9/08</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This is in response to Applicant's Communication filed February 1st 2008
2. Claim 1,3-30 are pending in the Application with claims 11-31 withdrawn from consideration .

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

4. Claims 1,3-4,6,9-10 are rejected under 35 U.S.C. §102(e) as being anticipated by Lee 154 et al. (U.S. Patent 6,687,154) thereafter Lee 154.

With regard to claim 1, Lee 154 (in fig 7B,fig 7D, in fig 9) discloses a transistor memory array comprising:

a first plurality of non-volatile user programmable (fig 7B, transistors 70a and 70b) memory cell including a non-volatile memory transistor and a first select transistor and a second plurality of mask programmed read-only memory cells(fig 7D, transistors 70a and 70b) including a mask programmed memory transistor and a second select transistor , the non-volatile memory cells and the read-only memory cells having the same area footprint within a single memory array (column 13 line 13-32).

Noted that Lee 154 discloses a Mask ROM cell and a Flash cell (i.e. user programmable non-volatile cell) using the same process and by shorting the control gate and the floating gate of the Flash cell to make a Mask Rom cell, therefore the two cells inherently have the same footprint and the same area footprint. Noted that transistor 70b in fig 7B and 7D (column 6 line 5) can be used as select transistors.

With regard to claim 3, Lee 154 discloses (in fig 4,column 6 line 5) a memory array wherein the footprint has a longitudinal dimension and a width dimension that are the same for both the first and second pluralities of memory cells. with the select transistor (fig 7B and fig 7D transistor 70b) and memory transistor having a shared electrode in each memory cell.

Noted that in fig 7B and 7D the shared electrode is the common Source and Drain (fig 7B and Fig 7D reference 78)

With regard to claim 4,Lee 154 discloses (in column 13 lines 1-12)a memory array wherein the read-only memory cells include cells having transistor s with substrates having open channels and cells having transistor with substrate having shorted channel .

noted that Rom cell in Lee 154 disclosure can be closed or open using boron implantation (i.e. either the channel is not implanted by boron or implanted by boron dopant, Lee 154 reference column 6 lines 13-15, column 8 lines 51-54)

With regard to claim 6, Lee 154 discloses (in fig 6) a memory array of claim wherein the second plurality of read- only memory cells is grouped into rows .

With regard to claim 9, Lee 154 discloses (, fig 7D, column 13 lines 1-12) a memory array wherein the channels in the transistors with substrates having open channels and in the transistors with substrates having shorted channels in the read-only memory cell are defined by a buried depletion implant in said substrate, the extent of the implant defining open and shorted channels.

noted that Rom cell in Lee 154 disclosure can be closed or open using boron implantation (i.e. either the channel is not implanted by boron or implanted by boron dopant, Lee 154 reference column 6 lines 13-15, column 8 lines 51-54)

With regard to claim 10, Lee 154 discloses (fig 7B, in fig 9, column 6 line 37) a memory array wherein said non-volatile memory transistors are EEPROM transistors.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. §103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee 154 et al.(
US patent 6,687,154)

With regard to claim 7,8 as set forth in the rejection of claim 6, Lee 154 discloses all the invention of claim 7 and claim 8 except for the condition of programming wherein the group of ROM cells has a first subgroup of Memory cells at least one row in first logic state and wherein said group of rows of read-only memory cells has a second subgroup of transistors in at least one row in a second logic state .It would have been obvious to one of ordinary skill in the art the time the invention was made to set the condition of programming wherein the group of ROM cells has a first subgroup of transistors at least one row in first logic state and wherein said group of rows of read-only memory cells has a second subgroup of transistors in at least one row in a second logic state in the Lee 154 device since it has been held that the provision of adjustability when needed, involves only routine skill in the art (Noted that the adjustability skill in this case is a mere routine programming skill of a mask ROM (i.e. set one or set zero) during production to adjust to a particular application, also noted that Lee 154 invention is highly flexible (column 13 lines 48-53) and can be applied to multiple applications(column 1 lines 27-40). Noted that it has been held that the provision of adjustability when needed , required only routine skill in the art. In Re Steven,101 USPQ 284 (CCPA 1954)

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (U.S. patent 6,687,154) in view of Hsu et al. (U.S. patent 6,822,286).

With regard to claim 5, as set forth in the rejection of claim 1, Lee 154 discloses all the invention including a non-volatile memory cell (Lee 154 fig 7B) that has two poly layers except for specifically discloses a read only memory cell that have one poly layer.

Hsu , however, discloses a read only memory cell that has one poly layer.(Hsu fig 2)

It would have been obvious to one of ordinary skill in the art the time the invention was made to incorporate this feature, as taught by Hsu, into the Lee 154 device and come up with the invention of claim 5.

The rationale is as the following :

A person skilled in the art at the time the invention was made would have been motivated to take advantage of design simplification , taught by Hsu (column 2 lines 4-15) in order to make the Lee 154 a superior device.

8. When responding to the office action, Applicants are advised to provide the examiner with the line numbers and the page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.

9. A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the day of this letter. Failure to respond within the period for response will cause the application to be abandoned (see M.P.E.P. 710.02(b)).

CONCLUSION

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thinh T Nguyen whose telephone number is 571-272-1790. The examiner can normally be reached on 9:30 am - 6:30 pm Monday to Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, STEVEN LOKE can be reached on 571-272-1657. The fax phone numbers for the organization where this application or proceeding is assigned is 571-273-8300

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval [PAIR] system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Thinh T Nguyen/
Patent Examiner
Art Unit 2818